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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/720,647	07/17/2001	Ramachandran Murali	UPN-3963	3796

7278 7590 11/02/2006

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EXAMINER

CLOW, LORI A

ART UNIT PAPER NUMBER

1631

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/720,647

Applicant(s)

MURALI ET AL.

Examiner

Lori A. Clow, Ph.D.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 6-31 is/are pending in the application.
- 4a) Of the above claim(s) 9-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 6-8, 25-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicants' response, filed 25 September 2006, has been fully considered. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Claims 1, 6-8, and 25-31 are currently pending. Claims 2-5 have been cancelled. Claims 9-24 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

#### **Claim Objections**

Claim 1 is objected to because of the following informalities: Claim 1 recites "modulates intermolecular interaction". There appears to be a grammatical error in the claim language. Perhaps Applicant intends the claim to read either "modulates an intermolecular interaction" or "modulates intermolecular interactions". Appropriate correction is required.

#### **Claim Rejections - 35 USC § 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 6-8, and 25-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites “a method of identifying a compound that modulates intermolecular interaction between functionally critical site of a target protein and a modifier”. It is unclear what “modifier” is intended. Is this a “modifier” of the protein, per se (as in the modifier changes conformation of the protein or the activity, or something else? Clarification is requested.

Claims 1, 26-30 recites “said compound that modulates intermolecular interaction at said functionally critical site of said target protein and said modifier”. It is unclear what is being modulated. Is it modulating interaction of the protein OR the modulator with the critical site or is it modulating interaction of BOTH the protein and the modulator with the critical site? Clarification is requested.

Claim 6 recites “the method of claim 1, wherein step (c) comprises detecting shape complementarity between the functional group of the compound”. It is unclear if this step is in addition to step (c) or is intended to replace step (c). Further, there is insufficient antecedent basis on the claim for “functional group”. Claim 1 recites “functional groups”. Clarification is requested.

Claim 7 recites “wherein step (d) comprises detecting”. It is unclear if this is intended to replace the assaying step or is in addition to the assaying step, as there is no detecting in step (d) of claim 1. Clarification is requested.

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Claim 8 recites “wherein step (d) comprises detecting”. It is unclear if this is intended to replace the assaying step or is in addition to the assaying step, as there is no detecting in step (d) of claim 1. Clarification is requested.

Claim 25 recites “wherein identifying the allosteric cavity”. There is insufficient antecedent basis in the claim for “allosteric cavity”. Clarification is requested.

Claim 26 recites “a method of identifying a compound that is an allosteric modulator of an intermolecular interaction associated with a biological function intended to be modulated at a functionally critical site between a target protein and a modifier”. It is unclear what “modifier” is intended. Is this a “modifier” of the protein, per se (as in the modifier changes conformation of the protein or the activity, or something else? Further, is “intended to be modulated” an active step? Clarification is requested.

Claim 27 recites “a method of identifying a compound that is an allosteric modulator of an intermolecular interaction...between a target protein and a modifier”. It is unclear what “modifier” is intended. Is this a “modifier” of the protein, per se (as in the modifier changes conformation of the protein or the activity, or something else? Further, is “intended to be modulated” an active step? Clarification is requested.

Claims 28-30 recite “a method of identifying a compound that is an allosteric modulator of an intermolecular interaction...between a target protein and a modifier”. It is unclear what “modifier” is intended. Is this a “modifier” of the protein, per se (as in the modifier changes conformation of the protein or the activity, or something else? Further, is “intended to be modulated” an active step? Clarification is requested.

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### Conclusion

No claims are allowed.

The outstanding rejections under 35 USC 112,1s paragraph (written description) have been withdrawn in view of the Applicant's arguments.

The outstanding rejections under 35 USC 102 (Aghajari et al.) have been withdrawn in view of the amendments to the claims directed to "utilizing the calculated dimensions, chemical and/or electrostatic properties obtained at step (b) to identify compounds". Aghajari et al. do not teach using calculated dimensions to identify compounds that can accommodate the cavity.

### Inquiries

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The Central Fax Center Number is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lori A. Clow, Ph.D., whose telephone number is (571) 272-0715. The examiner can normally be reached on Monday-Friday from 10 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

*Lori A. Clow*  
*Patent Examiner*  
*Art 1631 10/30/06*